

**REMARKS/ARGUMENTS**

Favorable reconsideration and allowance of the present application are respectfully requested in view of the following remarks.

Claims 11-15 and 25-43 were pending prior to the Office Action. In this Amendment, claim 29 is canceled without prejudice or disclaimer. Therefore, claims 11-15, 25-28 and 30-43 are pending. Claims 11 and 12 remain independent.

**A. §102 REJECTION - KUWANO**

Claims 11, 12, 25-27 and 30 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Kuwano et al. (U.S. Patent No. 4,281,208, *hereinafter Kuwano*). Applicants respectfully traverse.

Independent claim 11 is amended to incorporate the feature of canceled claim 29. More specifically, claim 11 recites, in part “wherein the opening portion does not electrically separate the transparent electrode layer.” In the Office Action, Kuwano is not relied upon to teach or suggest this feature. This is sufficient to distinguish claim 11 from Kuwano.

Independent claim 12 recites, in part “wherein the opening portion does not electrically separate the first transparent electrode layer.” As discussed above, Kuwano does not teach or suggest this feature. This is sufficient to distinguish claim 12 from Kuwano.

But in addition, claim 12 recites “a plurality of photoelectric conversion layers and a backside electrode layer stacked in this order on a structure” and “a first intermediate layer sandwiched between at least a pair of adjacent two photoelectric conversion layers.” In the Office Action, the Examiner alleges that the photoelectric converting regions 81, 82 and 83 described in Kuwano are equivalent to a plurality of photoelectric conversion layers. It is noted that the regions 81, 82 and 83 are formed side by side – not stacked above one another. This is in contrast with the claimed features.

At least for the above stated reasons, claim 12 is distinguishable over Kuwano. Claims 25-27 and 30 are distinguishable over Kuwano by virtue of their dependencies from independent claim 11 as well as on their own merits.

Applicants respectfully request that the rejection of claims based on Kuwano be withdrawn.

#### **B. §102 REJECTION - SATO**

Claims 11, 25-27, 29-31 and 35 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Sato et al. (EP 1443527, *hereinafter Sato*). Applicants respectfully traverse.

The Examiner relies upon Figs. 1 and 5 of Sato to allegedly disclose the features of claim 11. Fig. 1 illustrates a substrate 1 and a transparent conductive oxide (TCO) film formed thereon. *Sato*, [0018]. The substrate is covered by discontinuous small ridges 4 made of a first oxide, and a

continuous layer 5 made of a second oxide. *Sato*, [0033]-[0035]. Fig. 5 illustrates a different embodiment of a solar cell that comprises a glass substrate 44 and a TCO film 45 formed thereon. *Sato*, [0079].

Regarding Fig. 1, the Examiner indicates that combination of layers 4/5 are asserted to be equivalent to the claimed transparent electrode layer. *Office Action*, page 5. This fails since the combination cannot disclose the feature of the transparent electrode layer having an opening portion “within which the transparent electrode layer is absent” recited in claim 11. This is due to the layer 5 being formed on the entirety of the surface of the substrate 1.

Note that as a natural consequence, Fig. 1 cannot disclose the feature of “wherein the opening portion does not electrically separate the first transparent electrode layer.”

Regarding Fig. 5, it is clear that the TCO film 45 also fails to disclose the feature of the transparent electrode layer having an opening portion “within which the transparent electrode layer is absent.” This is due to the TCO film 45 covering the entirety of the surface of the substrate 44. As a natural consequence, Fig. 5 also fails to disclose the feature of “wherein the opening portion does not electrically separate the first transparent electrode layer.”

It is seen that *Sato* cannot disclose the features of claim 11. As such, claim 11 is distinguishable over *Sato*. Claims 25-27, 29-31 and 35 are also distinguishable over *Sato* by virtue of their dependencies from claim 11 as well as on their own merits.

Applicants respectfully request that the rejections based on Sato be withdrawn.

**C. §103 REJECTION - SATO**

Claims 28 and 32-34 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sato. Applicants respectfully traverse.

These claims depend from independent claim 11 directly or indirectly. Therefore, these claims are also distinguishable over Sato by virtue of their dependencies from independent claim 11 as well as on their own merits.

Applicants respectfully request that the rejection of claims 28 and 32-34 based on Sato be withdrawn.

**D. §103 REJECTION - SUZUKI, SATO**

Claims 11-15, 25 and 36-43 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Suzuki et al. (U.S. Patent No. 5,350,459, *hereinafter Suzuki*) in view of Sato. Applicants respectfully traverse.

The Examiner admits that Suzuki does not disclose the transparent electrode layer as recited in claim 1, but alleges that Suzuki's deficiency can be corrected through Sato. But as demonstrated above, Sato is deficient. For at least this reason, independent claims 11 and 12 are distinguishable over Suzuki and Sato.

The Examiner also alleges that Suzuki teaches a plurality of conversion layers. In actuality, Suzuki teaches a single photoelectric conversion layer composed of first and second electron acceptor organic layers EAOL (I) and (II), and first and second electron donor organic layers EDOL (I), and (II). *Suzuki, column 6, lines 12-17; Figs. 1 and 2.* Suzuki is explicit that the electric charges “are generated at the interface between the second electron acceptor organic layer EAOL (II) and the first electron donor organic layer EDOL (I).” *Suzuki, column 6, lines 17-21.* Simply put, the entirety of the organic layers EAOL (I), EAOL (II), EDOL (I) and EDOL (II) form a single photovoltaic layer. This is in complete contrast to claim 12 which recites a plurality of photoelectric conversion layers.

For at least the above stated reasons, claims 11 and 12 are distinguishable over the combination of Suzuki and Sato. Claims 12-15, 25 and 36-43 are distinguishable over Suzuki and Sato by virtue of their dependencies from independent claims.

The dependent claims are also distinguishable on their own merits. For example, claims 13 and 14 both recite “wherein the first intermediate layer has at least an opening portion within which the first intermediate layer is absent.” The Examiner alleges that the pin holes described in column 6 and in column 40 are equivalent to the claimed opening portion of the first intermediate layer. As demonstrated above, the EAOL (II) layer is part of the single photoelectric

conversion layer in Suzuki. Suzuki does not disclose any layers resembling the claimed intermediate layer.

For at least the reasons stated above, Applicants respectfully request that the rejections of claims based on Suzuki and Sato be withdrawn.

#### **E. CONCLUSION**

All objections and rejections raised in the Office Action having been addressed, it is respectfully submitted that the present application is in condition for allowance. Should there be any outstanding matters that need to be resolved, the Examiner is respectfully requested to contact Hyung Sohn (Reg. No. 44,346), to conduct an interview in an effort to expedite prosecution in connection with the present application.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Respectfully submitted,

**NIXON & VANDERHYE P.C.**

By: \_\_\_\_\_



Hyung N. Sohn  
Reg. No. 44,346

HNS/edg  
901 North Glebe Road, 11th Floor  
Arlington, VA 22203-1808  
Telephone: (703) 816-4000  
Facsimile: (703) 816-4100